## **WHAT IS CLAIMED IS:**

- 1 1. A method for providing speech-enabled application programs comprising:
- 2 responsive to an input string, selecting from one or more natural language variants
- a prospective variant that most resembles the input string; and
- identifying a natural language exemplar via a mapping between the exemplar and
- 5 the prospective variant.
- 1 2. The method of claim 1, wherein the mapping comprises:
- 2 mapping the one or more natural language variants with at least one natural
- 3 language exemplar.
- 1 3. The method of claim 2, wherein the prospective variant corresponds to at least
- 2 one natural language exemplar.
- 1 4. The method of claim 1, further comprising:
- executing an action instruction associated with the identified natural language
- 3 exemplar.
- 1 5. The method of claim 1, further comprising:
- 2 mapping a plurality of action instructions with a plurality of natural language
- 3 exemplars, wherein each action instruction is associated with at least one natural
- 4 language exemplar.

- 1 6. The method of claim 5, further comprising:
- 2 generating a mapping function that specifies a difference between the input string
- 3 and the prospective variant.
- 1 7. The method of claim 6, further comprising:
- applying the mapping function to the action instruction associated with the
- 3 identified natural language exemplar to produce an adapted action instruction.
- 1 8. The method of claim 7, further comprising:
- 2 executing the produced adapted action instruction.
- 1 9. The method of claim 6, further comprising:
- applying the mapping function to the identified natural language exemplar to
- 3 produce an adapted exemplar.
- 1 10. The method of claim 9, further comprising
- forwarding the adapted exemplar to a user to confirm whether the user desires an
- 3 adapted action corresponding to the adapted exemplar.
- 1 11. The method of claim 10, further comprising:
- executing the adapted action if the user confirms that an adapted exemplar
- 3 expresses the action desired by the user.

- 1 12. The method of claim 11, further comprising:
- 2 if the user does not accept that the adapted exemplar expresses the action desired
- by the user, selecting from the one or more natural language variants an alternative
- 4 prospective variant that most resembles the input string; and
- identifying a natural language exemplar via a mapping between the exemplar and
- 6 the alternative prospective variant.
- 1 13. The method of claim 12, further comprising:
- executing an action instruction associated with the identified natural language
- 3 exemplar.
- 1 14. The method of claim 2, further comprising:
- storing one or more natural language variants mapped to at least one natural
- 3 language exemplar in a memory.
- 1 15. The method of claim 14, wherein at least one natural language variant is input by
- 2 a user.
- 1 16. The method of claim 14, wherein at least one natural language variant is input by
- an application developer.
- 1 17. The method of claim 14, wherein the at least one natural language exemplar is
- 2 input by an application developer.

- 1 18. The method of claim 14, wherein the at least one natural language exemplar is
- 2 produced automatically by a natural language generator.
- 1 19. The method of claim 14, further comprising:
- producing at least one natural language variant by automatically generating
- 3 paraphrases of the natural language exemplar.
- 1 20. The method of claim 1, further comprising:
- loading an active context file relating to a service accessed by a user, the active
- 3 context file containing the one or more natural language variants and the natural language
- 4 exemplar.
- 1 21. The method of claim 1, further comprising:
- 2 comparing the input string with the one or more natural language variants.
- 1 22. The method of claim 1, wherein the input string is input by at least one of a
- 2 keyboard, handwriting recognition device, a dial pad, and a speech recognition device.
- 1 23. A system for providing speech-enabled application programs comprising:
- a voice recognizer to receive an input string and produce a recognized input
- 3 string;
- a memory to store one or more natural language variants corresponding to at least
- one natural language exemplar; and

6	a processor to:
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- select from the one or more natural language variants a prospective variant
- 8 that most resembles the received recognized input string; and
- 9 identify the at least one natural language exemplar corresponding to the 10 prospective variant.
- 1 24. The system of claim 23, further comprising:
- a controller adapted to execute an action instruction associated with the identified
- 3 natural language exemplar corresponding to the prospective variant.
- 1 25. The system of claim 23, the processor adapted to map a plurality of action
- 2 instructions with a plurality of natural language exemplars, wherein each action
- 3 instruction is associated with at least one natural language exemplar and the memory to
- 4 store the mapped action instructions.
- 1 26. The system of claim 25, the processor adapted to further generate a mapping
- 2 function that specifies a difference between the received recognized input string and the
- 3 prospective variant.
- 1 27. The system of claim 26, the processor adapted to apply the mapping function to
- 2 the action instruction associated with the identified natural language exemplar mapped to
- 3 the prospective variant to produce an adapted action instruction.

- 1 28. The system of claim 27, the controller adapted to execute the produced adapted
- 2 action instruction.
- 1 29. The system of claim 28, further comprising:
- an output synthesizer to present a result of the executed instruction by providing
- 3 data that can be presented to an audio or visual terminal device.
- 1 30. The system of claim 29, wherein the output synthesizer is at least one of a display
- 2 format and a speech synthesizer.
- 1 31. The system of claim 23, further comprising:
- an input device to generate an input string.
- 1 32. The system of claim 31, wherein said input device is at least one of a keyboard,
- 2 handwriting recognition device, a dial pad, and a speech recognition device.
- 1 33. A machine-readable medium having stored thereon executable instructions for
- 2 performing a method comprising:
- responsive to an input string, selecting from one or more natural language variants
- 4 a prospective variant that most resembles the input string; and
- identifying a natural language exemplar via a mapping between the exemplar and
- 6 the prospective variant.

- 1 34. The machine-readable medium of claim 33 having stored thereon further
- 2 executable instructions for performing a method comprising:
- mapping the one or more natural language variants with at least one natural
- 4 language exemplar.
- 1 35. The machine-readable medium of claim 33 having stored thereon further
- 2 executable instructions for performing a method comprising:
- executing an action instruction associated with the identified natural language
- 4 exemplar.
- 1 36. The machine-readable medium of claim 33 having stored thereon further
- 2 executable instructions for performing a method comprising:
- mapping a plurality of action instructions with a plurality of natural language
- 4 exemplars, wherein each action instruction is associated with at least one natural
- 5 language exemplar.
- 1 37. The machine-readable medium of claim 36 having stored thereon further
- 2 executable instructions for performing a method comprising:
- generating a mapping function that specifies a difference between the input string
- 4 and the prospective variant.
- 1 38. The machine-readable medium of claim 37 having stored thereon further
- 2 executable instructions for performing a method comprising:

- applying the mapping function to the action instruction associated with the
- 4 identified natural language exemplar to produce an adapted action instruction.
- 1 39. The machine-readable medium of claim 38 having stored thereon further
- 2 executable instructions for performing a method comprising:
- 3 executing the produced adapted action instruction.
- 1 40. The machine-readable medium of claim 37 having stored thereon further
- 2 executable instructions for performing a method comprising:
- applying the mapping function to the identified natural language exemplar to
- 4 produce an adapted exemplar.
- 1 41. The machine-readable medium of claim 40 having stored thereon further
- 2 executable instructions for performing a method comprising:
- forwarding the adapted exemplar to a user to confirm whether the user desires an
- 4 adapted action corresponding to the adapted exemplar.
- 1 42. The machine-readable medium of claim 41 having stored thereon further
- 2 executable instructions for performing a method comprising:
- executing the adapted action if the user confirms that an adapted exemplar
- 4 expresses the action desired by the user.

- 1 43. The machine-readable medium of claim 42 having stored thereon further
- 2 executable instructions for performing a method comprising:
- selecting from the one or more natural language variants an alternative
- 4 prospective variant that most resembles the input string, if the user does not accept that
- 5 the adapted exemplar expresses the action desired by the user; and
- identifying a natural language exemplar via a mapping between the exemplar and
- 7 the alternative prospective variant.
- 1 44. The machine-readable medium of claim 43 having stored thereon further
- 2 executable instructions for performing a method comprising:
- executing an action instruction associated with the identified natural language
- 4 exemplar.
- 1 45. In a speech-enabled service, a method for creating customized files containing
- 2 personalized command variants relating to the speech-enabled service, the method
- 3 comprising:
- accessing a context file relating to the speech enabled service, the context file
- 5 containing a natural language exemplar associated with a desired action;
- 6 creating a customized variant for the desired action; and
- 7 correlating the created variant with the natural language exemplar.
- 1 46. The method of claim 45, wherein the created variant represents one preferred way
- 2 of expressing the desired action.

- 1 47. The method of claim 46, further comprising:
- storing the created variant in a customized context file, wherein during service
- access by a user the personalized context file is uploaded by the speech-enabled service
- allowing the user to express the desired action using the created variant.
- 1 48. The method of claim 45, wherein the context file is accessed using a web browser.
- 1 49. The method of claim 45, wherein the context file is accessed using a telephone.
- 1 50. A system for providing speech-enabled application programs comprising:
- a memory to store one or more natural language variants corresponding to a
- 3 natural language exemplar; and
- 4 a processor to:
- select from the one or more natural language variants a prospective variant
- 6 that most resembles an input string; and
- identify a natural language exemplar via a mapping between the exemplar
- and the prospective variant.
- 1 51. The system of claim 50, further comprising:
- a voice recognizer to receive the input string and produce a recognized input
- 3 string.
- 1 52. The system of claim 50, further comprising:

- a controller adapted to execute an action instruction associated with the identified
- 3 natural language exemplar.
- 1 53. The system of claim 50, the processor adapted to map the one or more natural
- 2 language variants with the natural language exemplar.
- 1 54. The system of claim 50, the processor adapted to map a plurality of action
- 2 instructions with a plurality of natural language exemplars, wherein each action
- 3 instruction is associated with at least one natural language exemplar and the memory to
- 4 store the mapped action instructions.
- 1 55. The system of claim 51, the processor adapted to generate a mapping function that
- 2 specifies a difference between the recognized input string and the prospective variant.
- 1 56. The system of claim 55, the processor adapted to apply the mapping function to
- 2 an action instruction associated with the identified natural language exemplar to produce
- 3 an adapted action instruction.
- 1 57. The system of claim 56, further comprising:
- a controller adapted to execute the produced adapted action instruction.
- 1 58. The system of claim 57, further comprising:

- an output synthesizer to present a result of the executed instruction by providing
- 3 data that can be presented to an audio or visual terminal device .
- 1 59. The system of claim 58, wherein the output synthesizer is at least one of a display
- 2 format and a speech synthesizer.
- 1 60. The system of claim 50, further comprising:
- 2 an input device to generate the input string.
- 1 61. The system of claim 60, wherein said input device is at least one of a keyboard,
- 2 handwriting recognition device, a dial pad, and a speech recognition device.